



A vehicle whose engine is running but in a neutral gear and stationary is at idle. The set point of that engine speed varies between manufacturers. For a Mercedes-Benz heavy-duty engine it's 500rpm (compared to a normal operational range of 900-2,200rpm); for the DAF MX-11 and MX-13 it's 525-600rpm; for Scania it's 550-650rpm, depending partly on ancillaries.

According to Mercedes-Benz, the ideal idle set point depends on multiple factors, including vibration, noise, fuel consumption, oil temperature, water temperature, battery level and torque required to idle the engine. In theory, reducing the idle speed too much will force the engine to stall; raising it too much will increase fuel burn.

In modern commercial vehicles, idle speed is pre-set by the OEM and managed in operation by an ECU (electronic control unit). Incorrect idle settings will trigger the illumination of a dash light and a fault code. This means there is no need for the adjustment that would have been necessary in the past with mechanical fuel systems.

Over the past 20 years, OEMs have been able to use more precise fuelling technology to lower idle speeds. This has had the effect of not only reducing fuel consumption, but also engine noise. Although DAF would not offer an absolute value, it estimates fuel consumption at idle is 1-2 litres per hour.

IDLE TALK

Truck, bus and coach drivers are often criticised for leaving the engine on when stationary, as this burns fuel (and generates smog) without providing the benefit of transportation. However, idling plays a key role in the engineering of the vehicle, OEMs say

Even if stationary engines are not contributing to transport, they may well be driving on-board equipment through the alternator, contrary to the literal meaning of the word 'idle' as implying 'not working'. Examples include recharging batteries, driving air compressors and powering cabin air conditioning.

Heavy draw, such as a PTO-connected cargo refrigerator, might require a higher idle speed to generate sufficient power. Idle speeds might also rise with the need to cool the engine, as

engine speed determines the fan speed. Another example is a passive DPF (diesel particulate filter) regeneration cycle, which raises idle to 850-900rpm to maintain a high exhaust temperature.

As for warming up a vehicle by starting it and leaving it to idle for a few minutes before setting off, this is not generally recommended. Some brands, such as DAF, deliberately apply a back pressure load on a cold engine at start-up to raise its temperature quickly.

Nor do OEMs recommend that drivers leave vehicles idling for long in other circumstances, like a stationary traffic jam. Scania's head of pre-sales (technical), Phil Rootham offers a general rule: if the wait is longer than a couple of minutes, switch it off.

DAF marketing manager Phil Moon states: "A driver would ideally switch off when they know they are going to be stationary for some time", but leaves the exact time down to common sense and a sense of the circumstances, such as whether the driver can see ahead to anticipate traffic starting to move off.

In addition, DAF offers an idle shutdown feature that automatically switches off the engine after five minutes (by default, but adjustable) when the vehicle is stationary, the transmission is in neutral and the PTO is not active.

Vehicles fitted with idle start-stop (ISS) engines are capable of an increased number of start-stop cycles - see also www.is.gd/fiqute - although they are unusual in heavy goods vehicles. 